



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200



D3319-1
Job Sheet 171418

Part No: D3319-1

Job Qty: 12 ea

Part Name: Forward Wearplate



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/1/18

Job Tracking No:

Due Date: 2/2/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: IPP: B 05.10.14 Added step 9, dwg rev B KJ/EC IPP Rev:C Now on Waterjet 06-10-26 JLM IPP REV:D
17.10.25 AS PER DWG REV.D DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	12 Ea	2/1/18	2/1/18	0.00	0.00	Start Up Waterjet		ac 18/02/01
100	Waterjet	12 pcs	2/1/18	2/1/18	0.00	1.25	Waterjet1		ac 18/02/01
110	QC	12 pcs	2/1/18	2/1/18	0.00	0.00	QC2 Waterjet-2		ac 18/02/01
120	QC	12 pcs	2/1/18	2/1/18	0.00	0.00	QC8-2		38
140	Brake NC	12 pcs	2/1/18	2/1/18	0.07	0.87	Brake NC 1		DAE-89 FF
150	QC	12 pcs	2/1/18	2/1/18	0.00	0.00	QC5		38
160	Autoweld 1	12 pcs	2/1/18	2/1/18	0.00	3.08	Automated welding		9-89 LZ
170	QC	12 pcs	2/1/18	2/1/18	0.00	0.00	QC10		PD 18-02-23
180	QC	12 pcs	2/1/18	2/1/18	0.00	0.00	QC5		PD 18-02-23
190	SprayPaint	12 pcs	2/2/18	2/2/18	0.00	0.28	Spray Paint		✓ A8D MAR 02 2018
200	QC	12 pcs	2/2/18	2/2/18	0.00	0.00	QC3		11 MAR 05 2018
210	Packaging	12 pcs	2/2/18	2/2/18	0.00	0.00	Packaging3-1		2-89
220	QC21-SA	12 Ea	2/2/18	2/2/18	0.00	0.00	QC21		21 MAR 07 2018

Part Op 100 - 1-Cut as per Dwg D3319 Dwg Rev: D Prog Rev: D 2-Deburr if necessary
Descriptions: 140 - 1- Form using DT8326 & DT8261 as per Dwg D3319Rev: _____ 2- Form flat on press using DT8776 block
160 - 8259 HARDCOAT B:
190 - COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURE COATING AS PER DWG NOTE 9 SHEET ONE.
BATCH: 138793
210 - Identify on inside surface using a permanent fine point marker with the following: TCCA-PDA, Dart Aerospace Ltd.
P/N: D3319-1, B/N: BXXXXX For Product Eligibility see PDA05-18 and Stock Location: _____

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M304S18GA	304/316 .050 Sheet	7.5360 sf (.628 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M304S18GA	8	76	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Wearplate	4.980inches ± 0.030	5.010		

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved		AGAINST DEPARTMENT _____	
Date : _____		Step #: _____		S038216 Forward Wearplate	
Description Work Order Deviation					
Root Cause		Pressure/Forced Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Wave/Twist in Tube Marks/Chatter		er Jet ☐ Door. ☐ ing plier ☐ Engineering ☐ Quality ☐ Other ☐	
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
				Start up Operation 02/01/18 Job No: 171418	
				PART NO: D3319-1 Original Serial #: S038216 Revision: Operation: Change No:	
				Misaligned/off center ☐	
				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER : _____			

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 Email: sales@dartaero.com
 www.dartaerospace.com



S038216

Forward Wearplate

PART NO: D3319-1
Original Serial #: S038216

Revision:
Operation:
Change No:

			4.950
2	Wearplate	1.600inches $\pm$ 0.010	1.610 1.590
3	Wearplate	2.660inches $\pm$ 0.010	2.670 2.650
4	Wearplate	3.190inches $\pm$ 0.010	3.200 3.180
5	Wearplate	3.563inches $\pm$ 0.010	3.573 3.553
6	Wearplate	4.710inches $\pm$ 0.030	4.740 4.680
7	Wearplate	0.600inches $\pm$ 0.030	0.630 0.570
8	Wearplate	10.576inches $\pm$ 0.010	10.586 10.566
9	Wearplate	11.942inches $\pm$ 0.010	11.952 11.932
10	Wearplate	18.090inches $\pm$ 0.030	18.120 18.060
11	Wearplate	0.316inches $\begin{matrix} + 0.006 \\ - 0.001 \end{matrix}$	0.322 0.315
12	Wearplate	0.546inches $\pm$ 0.010	0.556 0.536
13	Wearplate	0.316inches $\begin{matrix} + 0.006 \\ - 0.001 \end{matrix}$	0.322 0.315
14	Wearplate	0.670inches $\pm$ 0.010	0.680 0.660
15	Wearplate	0.190inches $\begin{matrix} + 0.005 \\ - 0.001 \end{matrix}$	0.195 0.189
16	Wearplate	3.815inches $\pm$ 0.010	3.825 3.805
17	Wearplate	16.100inches $\pm$ 0.010	16.110 16.090

Plex 2/1/18 7:16 AM Dart.lajeunesse.marie

DQA: _____ Date: _____

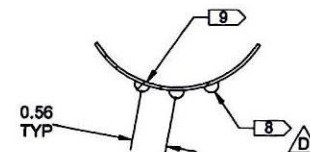
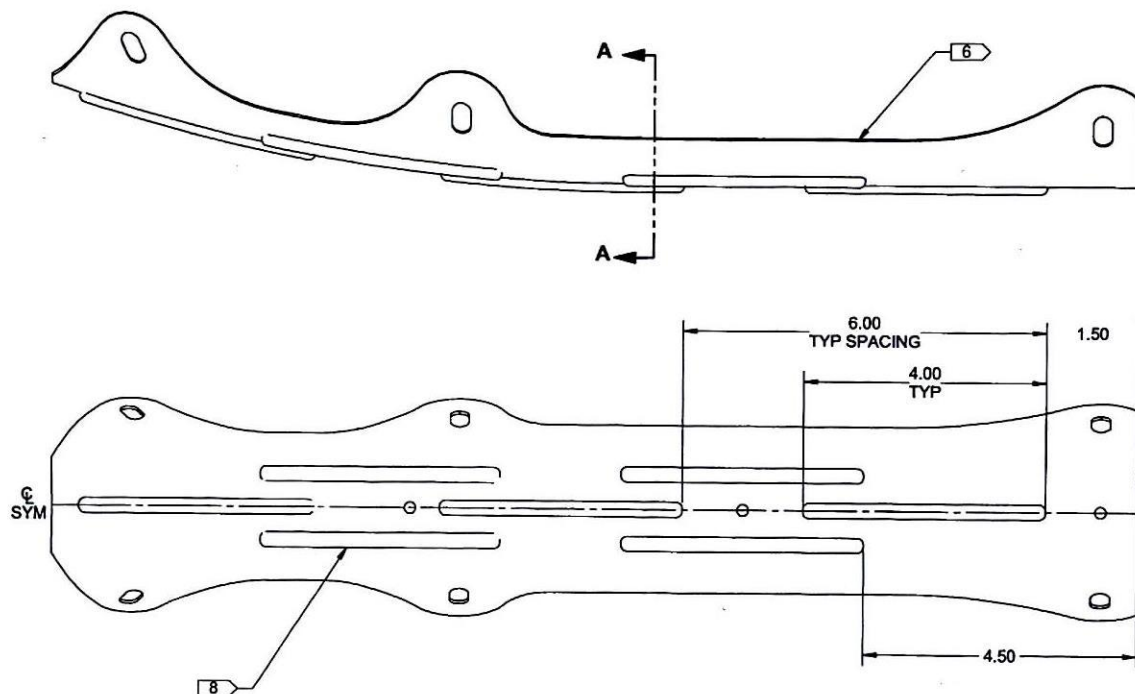


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



SECTION A-A

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171418 MJS
15-02-01

D3319-1 WEARPLATE
MAKE FROM D3319-1BND

RELEASED

2017 AUG 10

ECN 17-44

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3319-1" PER QSI 044 6.1
- 7) WEIGHT: 1.09 lbs
- 8) BUILDUP HARD SURFACING 0.06 TO 0.13 THICK USING 8259 ROD PER QSI 004 SECTION 4.5 (AUTOMATED WELDING) OR BUILDUP HARD SURFACING 0.06 TO 0.13 THICK USING 2059B ROD PER QSI 004 SECTION 4.1 (MANUAL WELDING)
- 9) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING 0.020-0.040 THICK, PER DART QSI 005 4.9

D	REVISE DRAWING TO SOLIDWORKS FORMAT. UPDATE NOTES, ADD ROBOTIC WELDING PROCESS, UPDATE TOLERANCES TO REFLECT INSPECTION CAPABILITY, CHANGE DRAIN HOLE LOCATION D3319-1, 12.00 WAS 12.500 (2N B8-2), CHANGE WELD, PATTERN AND ADD MISSING DRAIN HOLES D3319-1A-3, CHANGE MTL TO SS 304/316, ADDED D3319-XBND, SECTION VIEW F-F, AND UPDATED VIEW E-E ADDED DETAIL D, I, P	SAD	17.05.09
C	UPDATE TO CURRENT STANDARDS IAW QSI 043: CLOSED AFTMOST HOLE OF -3/4-7 (REF DETAIL G) SEE NCR 12-547	MB	12.03.13
B	WIDEN HOLES, REDUCE WIDTH OF -3/4-7	PH	05.06.06
A	NEW ISSUE	PH	04.09.24
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SAD		
CHECKED	AJS	DRAWING NO.	REV. D
MFG. APPR.	DP	D3319	SHEET 1 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	WEARPLATE	NTS
DATE	17.05.09	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

APPROVED

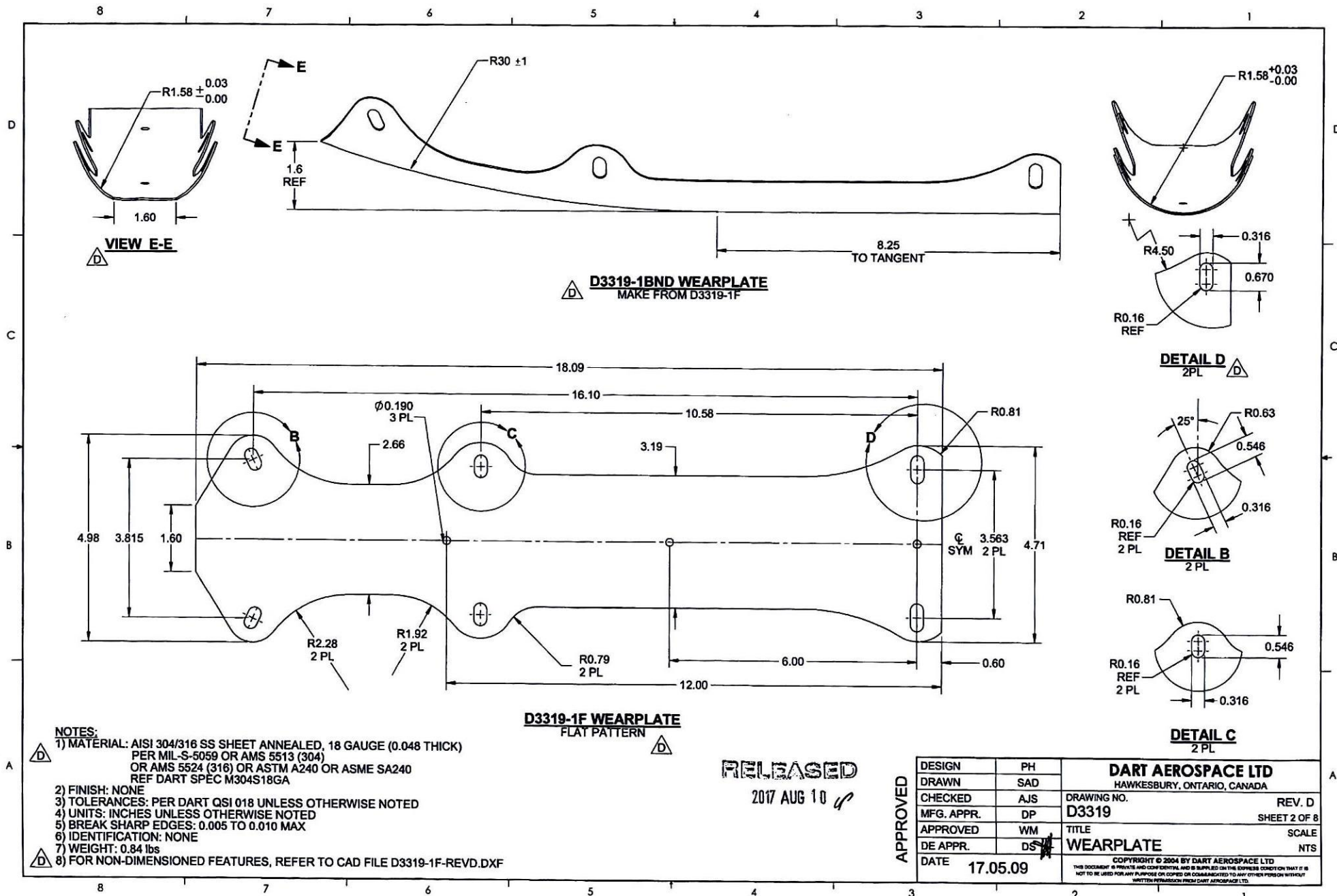
WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. _____		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date :		Step #:		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition			Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause				FAULT CATEGORY					
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process								
Misidentified ☐	☐ Past Due	OTHER :							



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					